

CLAIMS

What is claimed is:

1. An image processing system comprising:

an input that receives a plurality of source image data, said plurality of source image data further comprising a plurality of source image data formats;

circuitry that resamples source image data from said source image data format to a plurality of target image data formats; and

a display that renders target image data wherein the resolution of the display comprises approximately one half resolution of the largest of said plurality of target image data formats.
2. The image processing system of Claim 1 wherein one of said plurality of source image data formats is NTSC.
3. The image processing system of Claim 2 wherein one of said plurality of target image data formats is HDTV.
4. The image processing system of Claim 3 wherein the resolution of said display is approximately one half of the resolution of HDTV.
5. The image processing system of Claim 1 wherein said circuitry further comprises:

interpolation circuitry that interpolates from said source image data.

6. The image processing system of Claim 1 wherein said resampling circuitry further comprises:

duplication circuitry that performs data duplication of said source image data.

7. The image processing system of Claim 1 wherein said circuitry further comprises:

rendering circuitry that performs subpixel rendering of said source image data.

8. The image processing system of Claim 7 wherein said rendering circuitry further comprises:

resampling circuitry that area resamples said source image data.

9. The image processing system of Claim 7 wherein said rendering circuitry further comprises:

selection circuitry that selects one of a plurality of filter kernels; and

selection rendering circuitry that performs subpixel rendering upon said source image data according to the selected filter kernel.

10. The image processing system of Claim 1, further comprising:

detection circuitry that detects the resolution of the source image data;

resampling circuitry that resamples said source image data depending upon the detected resolution of the source image data; and

section circuitry that selects filter kernels for subpixel rendering said source image data.

11. The image processing system of Claim 10, said resampling circuitry for performing resampling of source image data further comprising one of a group, said group comprising circuitry for cubic interpolation, bicubic interpolation, sync, and windowed sync functions.

12. An image processing system that accepts a plurality of source image data formats and displays one of a plurality of target image data formats, comprising

communication circuitry that communicates a set of display capabilities to an external microprocessor, said communication circuitry comprising:

a plurality of storage, each said storage storing a machine readable data format of the display capabilities allowable by said image processing system;

selection circuitry that selects one of the plurality of storage; and

interface circuitry that communicates one of the machine readable formats of the display capabilities of said image processing system to an external microprocessor.

13. The image processing system of Claim 12 wherein said plurality of storage comprises a plurality of ROM storage.

14. The image processing system of Claim 12 wherein said selection circuitry further comprises:

a multiplexor connected to said plurality of storage, wherein said multiplexor selects one of said plurality of storage depending upon a signal.

15. The image process system of Claim 14 wherein said signal is supplied by one of a group consisting of a machine readable application and a human user.

16. An image processing system that accepts a plurality of source image data formats and displays one of a plurality of target image data formats, comprising

resampling circuitry that resamples source image data, the source image data including source input pixels arranged in source input lines, said resampling circuitry comprising:

pixel doubling circuitry that doubles source input pixels;

line doubling circuitry that doubles the source input lines; and

further wherein said pixel doubling circuitry comprises interpolation circuitry with interpolation coefficients

$-1/16, 9/16, 9/16, -1/16$.

17. The image processing system of claim 16, wherein said line doubling circuitry further comprises:

line interpolation circuitry with interpolation coefficients:

$-1/16, 9/16, 9/16, -1/16$.

18. A method for rendering a target image data, the steps of said method comprising:

inputting a plurality of source image data, said plurality of source image data further comprising a plurality of source image data formats;

resampling source image data from said source image data format to a plurality of target image data formats; and

rendering target image data onto a display wherein the resolution of the display comprises approximately one half of resolution of the largest of said plurality of target image data formats.

19. The method of Claim 18 wherein one of said plurality of source image data formats is NTSC.

20. The method of Claim 19 wherein one of said plurality of target image data formats is HDTV.

21. The method of Claim 20 wherein the resolution of said display is approximately one half of the resolution of HDTV.

22. The method of Claim 18 wherein said step of resampling source image data further comprises performing interpolation of said source image data.

23. The method of Claim 18 wherein said step of resampling source image data further comprises performing data duplication of said source image data.

24. The method of Claim 18 wherein said step of resampling source image data further comprises performing subpixel rendering of said source image data.

25. The method of Claim 24 wherein said step of performing subpixel rendering of said source image data further comprises performing area resampling of said source image data.

26. The method of Claim 24 wherein said step of performing subpixel rendering of said source image data further comprises:

selecting one of a plurality of filter kernels;

performing subpixel rendering upon said source image data according to the selected filter kernel.

27. The method of Claim 18 wherein said method further comprises:

detecting the resolution of the source image data;

resampling said source image data depending upon the detected resolution of the source image data; and

selecting filter kernels for subpixel rendering said source image data.

28. An image processing system comprising:

a means for inputting source image data in NTSC format;

circuitry for performing reconstruction filtering upon said source image data;

circuitry for subpixel rendering said source image data; and

a display for rendering an output image in HDTV format wherein the resolution of said display is approximately one half of the HDTV format.

29. An image processing system, comprising:

means for inputting a plurality of source image data, said plurality of source image data further comprising a plurality of source image data formats;

means for resampling source image data from said source image data format to a plurality of target image data formats; and

means for rendering target image data onto a display wherein the resolution of the display comprises approximately one half of resolution of the largest of said plurality of target image data formats.

30. The method of Claim 29 wherein said means for resampling source image data further comprises means for performing interpolation of said source image data.

31. The method of Claim 29 wherein said means for resampling source image data further comprises means for performing data duplication of said source image data.

32. The method of Claim 29 wherein said means for resampling source image data further comprises means for performing subpixel rendering of said source image data.

33. The image processing system of Claim 32 wherein said means for performing subpixel rendering of said source image data further comprises performing area resampling of said source image data.

34. The method of Claim 32 wherein said means for performing subpixel rendering of said source image data further comprises:

means for selecting one of a plurality of filter kernels;

means for performing subpixel rendering upon said source image data according to the selected filter kernel.

35. The method of Claim 29 wherein said image processing system comprises:

means for detecting the resolution of the source image data;

means for resampling said source image data depending upon the detected resolution of the source image data; and

means for selecting filter kernels for subpixel rendering said source image data.